UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,478	01/18/2001	Sudhir Bhasin	P4860/06145.012001	9884

32615 7590 11/12/2003		EXAMINER
ROSENTHAL & OSHA L.L.P. / SUN		DOOLEY, MATTHEW C
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HOUSTON, TX 77010		

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _27 August 2003_ .

2a)☒ This action is **FINAL**.　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected. ⁰

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _18 January 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allingham,

U.S. 5,937,182, in view of Fay, U.S. 6,324,665.

As per claim 1:

Allingham teaches to a hardware verification method that includes obtaining a set

of packets to be driven by a DUT, starting multiple drive loops that force the obtained

packets into the DUT, utilizing multiple expect loops wherein each expect loop

determines when a packet is expected to arrive as well as picking up said packet, and

checking for all loops if the expected packet arrives within a specified time period and

raising a flag if the expected packet does not arrive within the expected time period

(Fig.2; Fig.3; Col.4: 26-29, 40-42, 46-68; Col.5: 7-67). Moreover, Allingham teaches

specifically to obtaining timing criteria dependent on how long it should take to transmit

a packet (Col.2: 52-62). However, Allingham fails to explicitly teach that timing and

relation criteria are obtained which determine the sequence in which the packets should

be driven as well as confirming that the timing and relation criteria are satisfied prior to

allowing the drive loop to force the DUT (Col.3: 1-4). Fay teaches to a method of DUT

testing that includes timing and relation criteria that are obtained which determine the

sequence in which the packets should be driven as well as confirming that the timing and

relation criteria are satisfied prior to allowing the drive loop to force the DUT (Fig.4;

Col.7: 59-67; Col.8: 1-4, 32-37; Col.9: 55-58). It would have been obvious for one of

ordinary sill in the art at the time of the invention to incorporate the inclusion of timing

and relation criteria that are obtained which determine the sequence in which the packets

should be driven as well as confirming that the timing and relation criteria are satisfied

prior to allowing the drive loop to force the DUT into the device testing method of

Allingham because the inclusion of the techniques disclosed by Fay allow for precise

error detection in the testing analysis, thus creating a more robust testing system (Col.10:

8-13). Therefore, when the systems of Allingham and Fay are combined, it is obvious

that the methodology of Allingham allows for

As per claim 2:

Allingham teaches to allowing the drive loop to force the DUT includes obtaining

permission to drive the DUT (Col.6: 23-29).

As per claim 3:

The method of Allingham wherein determining when to expect a packet driven by

the DUT further includes determining permission to drive the DUT (Col.5: 54-59; Col.6:

23-29).

As per claim 4:

The DUT of Allingham is a bus bridge (Col.1: 32-34).

As per claim 5:

The DUT of Fay can be a data switch (Col.2: 18-32).

As per claim 6:

The method of Allingham teaches to monitoring an output of the DUT,

determining whether a packet driven by the DUT is picked up by an expect loop, and

raising an error flag if the packet is not picked up by an expect loop (Col.5: 60-67).

As per claim 7:

The method of Allingham allows for bus communication of the expect and drive

loops over a bus (Fig.2) and monitors activity on the bus and raises a flag if the bus is idle

for more than a specified amount of time (Col.5: 54-59).

As per claim 8:

Allingham teaches to a hardware verification method that includes obtaining a set

of packets to be driven by a DUT, starting multiple drive loops that force the obtained

packets into the DUT, utilizing multiple expect loops wherein each expect loop

determines when a packet is expected to arrive as well as picking up said packet,

checking for all loops if the expected packet arrives within a specified time period and

raising a flag if the expected packet does not arrive within the expected time period, and

monitoring an output of the DUT, determining whether a packet driven by the DUT is

picked up by an expect loop, and raising an error flag if the packet is not picked up by an

expect loop (Fig.2; Fig.3; Col.4: 26-29, 40-42, 46-68; Col.5: 7-67). Moreover, Allingham

teaches specifically to obtaining timing criteria dependent on how long it should take to

transmit a packet (Col.2: 52-62). However, Allingham fails to explicitly teach that timing

and relation criteria are obtained which determine the sequence in which the packets

should be driven as well as confirming that the timing and relation criteria are satisfied

prior to allowing the drive loop to force the DUT (Col.3: 1-4). Fay teaches to a method of

DUT testing that includes timing and relation criteria that are obtained which determine

the sequence in which the packets should be driven as well as confirming that the timing

and relation criteria are satisfied prior to allowing the drive loop to force the DUT (Fig.4;

Col.7: 59-67; Col.8: 1-4, 32-37; Col.9: 55-58). It would have been obvious for one of

ordinary sill in the art at the time of the invention to incorporate the inclusion of timing

and relation criteria that are obtained which determine the sequence in which the packets

should be driven as well as confirming that the timing and relation criteria are satisfied

prior to allowing the drive loop to force the DUT into the device testing method of

Allingham because the inclusion of the techniques disclosed by Fay allow for precise

error detection in the testing analysis, thus creating a more robust testing system (Col.10:

8-13).

As per claim 9:

Allingham teaches to allowing the drive loop to force the DUT includes obtaining

permission to drive the DUT (Col.6: 23-29).

As per claim 10:

The method of Allingham wherein determining when to expect a packet driven by

the DUT further includes determining permission to drive the DUT (Col.5: 54-59; Col.6:

23-29).

As per claim 11:

The DUT of Allingham is a bus bridge (Col.1: 32-34).

As per claim 12:

The DUT of Fay can be a data switch (Col.2: 18-32).

As per claim 13:

The method of Allingham allows for bus communication of the expect and drive loops over a bus (Fig.2) and monitors activity on the bus and raises a flag if the bus is idle for more than a specified amount of time (Col.5: 54-59).

As per claim 14:

Claim 14 is the corresponding apparatus claim to method claim 1. As such, analogous reasoning to that used in the rejection of claim 1 above can be further applied in the rejection of claim 14.

As per claim 15:

Claim 15 is the corresponding apparatus claim to method claim 6. As such, analogous reasoning to that used in the rejection of claim 6 above can be further applied in the rejection of claim 15.

As per claim 16:

Allingham teaches to a controller that controls communication between drive loops, expect loops, and the DUT (Fig.2).

As per claim 17:

Claim 17 is the corresponding apparatus claim to method claim 4. As such, analogous reasoning to that used in the rejection of claim 4 above can be further applied in the rejection of claim 17.

As per claim 18:

Claim 18 is the corresponding apparatus claim to method claim 5. As such,

analogous reasoning to that used in the rejection of claim 5 above can be further applied

in the rejection of claim 18.

As per claim 19:

The system of Allingham includes a bus that delivers the communication between

the loops and the DUT (Fig.2).

As per claim 20:

Claim 20 is the corresponding apparatus claim to method claim 7. As such,

analogous reasoning to that used in the rejection of claim 7 above can be further applied

in the rejection of claim 20.

Conclusion

3.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a):

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Matthew C. Dooley whose telephone number is (703) 306-5538.
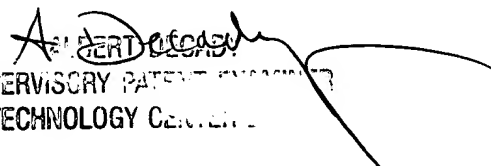
The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3900.

Matthew Dooley
Examiner AU 2133
11/03/03

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER